ILC6
PENTAGRID CONVERTER

GENERAL DATA

Electrical:

Filament, Coated:

Voltage	1.4	dc volts
Current	0.05	amp

Direct Interelectrode Capacitances:[o]

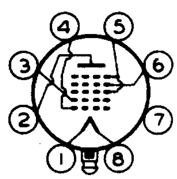
Grid No.4 to Plate	0.28	μμf
Mixer Input	9.0	μμf
Mixer Output	5.5	μμf
Oscillator Input	2.4	μμf
Oscillator Output	4.8	μμf

[o] With external shield connected to negative filament terminal.

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-25/32"
Maximum Seated Length	2-1/4"
Maximum Diameter	1-3/16"
Bulb	T-9
Base	Lock-in 8-Pin
Basing Designation for BOTTOM VIEW	7AK

Pin 1 - Filament (+)
Pin 2 - Plate
Pin 3 - Grid No.2
Pin 4 - Grid No.1
Pin 5 - Grid No.3, Grid No.5



Pin 6 - Grid No.4
Pin 7 - No Connection
Pin 8 - Filament (-)
Plug - Base Shell

CONVERTER

Maximum Ratings, ***Design-Center Values*:**

PLATE VOLTAGE	110 max.	volts
GRIDS-No.3 & No.5 (SCREEN) VOLTAGE	45 max.	volts
GRIDS-No.3 & No.5 SUPPLY VOLTAGE	110 max.	volts
GRID-No.2 (ANODE-GRID) VOLTAGE	50 max.	volts
GRID-No.2 SUPPLY VOLTAGE	110 max.	volts
TOTAL CATHODE CURRENT	3.0 max.	ma

Typical Operation:

Plate Voltage	45	90	volts
Grids-No.3 & No.5 Voltage[□]	35	35	volts
Grid-No.2 Voltage	45	45	volts
Grid-No.4 (Control-Grid) Supply Voltage	0	0	volts
Min. Grid-No.4 Resistor	1	1	megohm
Grid-No.1 (Oscillator-Grid) Resistor	0.2	0.2	megohm
Plate Resistance	0.3	0.65	megohm
Conversion Transconductance	250	275	μmhos
Conversion Transconductance (Approx.)#	5	5	μmhos

□,#: See next page.

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Plate Current.	0.70	0.75	ma
Grids-No.3 & No.5 Current.	0.75	0.70	ma
Grid-No.2 Current.	1.4	1.4	ma
Grid-No.1 Current.	0.035	0.035	ma
Total Cathode Current.	2.9	2.9	ma

□ Obtained preferably by using a properly bypassed voltage-dropping resistor in series with the plate voltage supply. To avoid oscillation difficulties, the voltage of grids No.3 & No.5 must be at least 10 volts lower than the grid-No.2 voltage.

\# For grid-No.4 bias of -3 volts.

NOTE: The characteristics of the oscillator section (not oscillating) are: transconductance = approx. 550 μmhos; μ = 14; and grid-No.2 current = 2.7 ma. under the following conditions: plate volts = 90; grids No.3 & No.5 volts = 45; grid-No.4 volts = 0; grid-No.2 volts = 90; grid-No.1 volts = 0.